

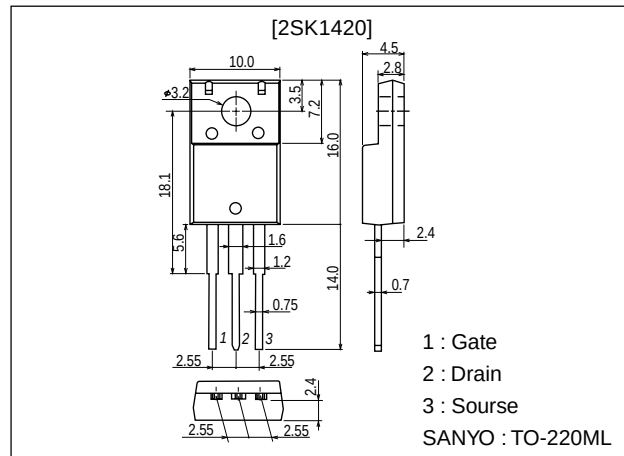
Ultrahigh-Speed Switching Applications**Features**

- Low ON-state resistance.
- Ultrahigh-speed switching.
- Converters.
- Micaless package facilitating mounting.

Package Dimensions

unit:mm

2063A

**Specifications****Absolute Maximum Ratings at Ta = 25°C**

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		60	V
Gate-to-Source Voltage	V_{GSS}		± 20	V
Drain Current (DC)	I_D		25	A
Drain Current (Pulse)	I_{DP}	$PW \leq 10\mu s$, duty cycle $\leq 1\%$	100	A
Allowable Power Dissipation	P_D	$T_c = 25^\circ C$	30	W
			2.0	W
Channel Temperature	T_{ch}		150	$^\circ C$
Storage Temperature	T_{stg}		-55 to +150	$^\circ C$

Electrical Characteristics at Ta = 25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D = 1mA$, $V_{GS} = 0$	60			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 60V$, $V_{GS} = 0$			100	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS} = \pm 20V$, $V_{DS} = 0$			± 100	nA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = 10V$, $I_D = 1mA$	1.5		2.5	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS} = 10V$, $I_D = 15A$	10	15		S
Static Drain-to-Source ON-State Resistance	$R_{DS(on)}$	$I_D = 15A$, $V_{GS} = 10V$		0.035	0.045	Ω

(Note) Be careful in handling the 2SK1420 because it has no protection diode between gate and source.

Continued on next page.

■ Any and all SANYO products described or contained herein do not have specifications that can handle applications that require extremely high levels of reliability, such as life-support systems, aircraft's control systems, or other applications whose failure can be reasonably expected to result in serious physical and/or material damage. Consult with your SANYO representative nearest you before using any SANYO products described or contained herein in such applications.

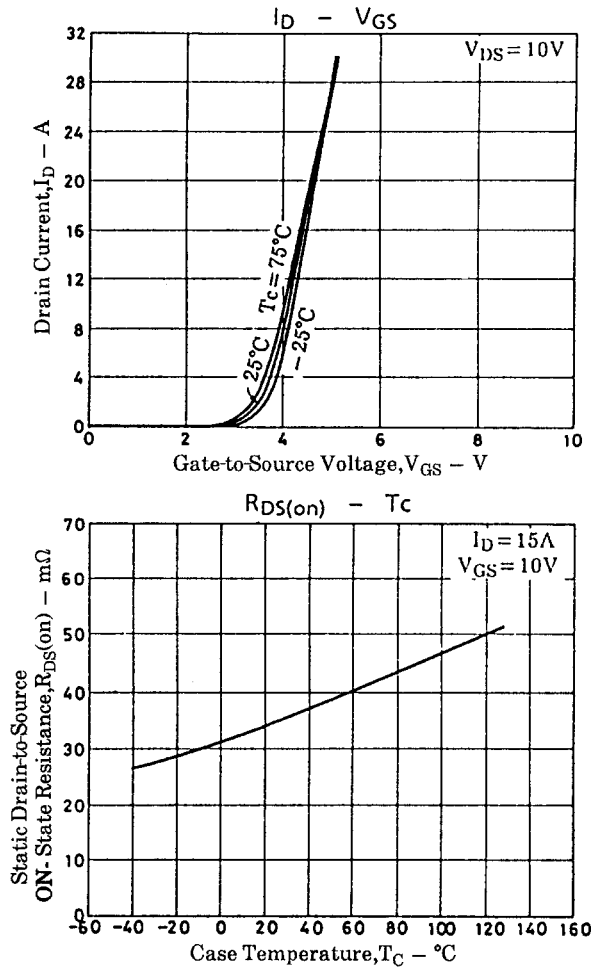
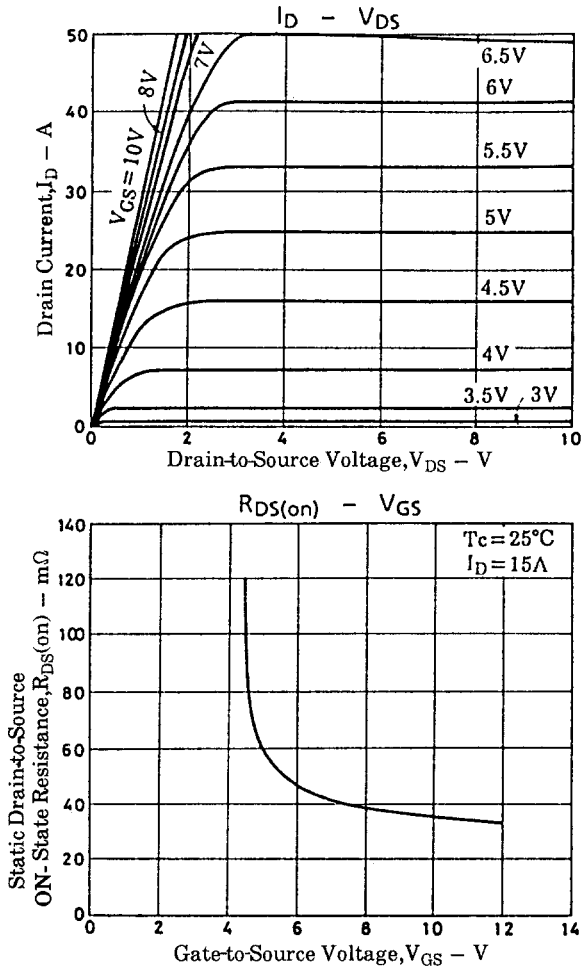
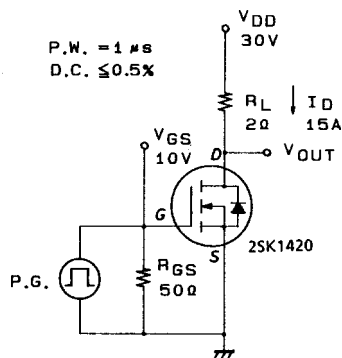
■ SANYO assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all SANYO products described or contained herein.

2SK1420

Continued from preceding page.

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	$V_{DS}=20V, f=1MHz$		1200		pF
Output Capacitance	Coss	$V_{DS}=20V, f=1MHz$		550		pF
Reverse Transfer Capacitance	Crss	$V_{DS}=20V, f=1MHz$		150		pF
Turn-ON Delay Time	$t_{d(on)}$	$I_D=15A, V_{GS}=10V, V_{DD}=30V, R_{GS}=50\Omega$		18		ns
Rise Time	t_r	$I_D=15A, V_{GS}=10V, V_{DD}=30V, R_{GS}=50\Omega$		102		ns
Turn-OFF Delay Time	$t_{d(off)}$	$I_D=15A, V_{GS}=10V, V_{DD}=30V, R_{GS}=50\Omega$		130		ns
Fall Time	t_f	$I_D=15A, V_{GS}=10V, V_{DD}=30V, R_{GS}=50\Omega$		90		ns
Diode Forward Voltage	V_{SD}	$I_S=25A, V_{GS}=0$			1.8	V

Switching Time Test Circuit



2SK1420

